

## IMPACT OF THE COMBINATION OF SYNERGISTICALLY ACTING PROBIOTIC CULTURES, ORGANIC ACIDS AND ADSORBENTS MIXTURE TO DAIRY COW'S PERFORMANCE AND MILK COMPOSITION

*Virginijus Slausgalvis*<sup>3</sup>, *Jovita Lionikiene*<sup>1</sup>, *Nagima Manasbayeva*<sup>4</sup>, *Asta Raceviciute-Stupeliene*<sup>1</sup>, *Vilija Buckiuniene*<sup>1</sup>, *Kratz Ruediger*<sup>3</sup>, *Benoit Letor*<sup>3</sup>, *Bauwens Steepan*<sup>3</sup>, *Romas Gruzauskas*<sup>1</sup>, *Gulshat Shaikamal*<sup>4</sup>, *Ieva Kudlinskiene*<sup>1</sup>, *Rolandas Stankevicius*<sup>2</sup>

<sup>1</sup>*Lithuanian University of Health Sciences, Veterinary Academy, Institute of Animal Rearing Technologies. Kaunas, Lithuania, e-mail: jovita.lionikiene@ismuni.lt*

<sup>2</sup>*Department of Animal Breeding and Nutrition, Lithuanian University of Health Sciences*

<sup>3</sup>*Innov ad nv/sa Essen, Belgium*

<sup>4</sup>*Kostanay State University, Veterinary and Livestock Technology Faculty, Kostanay Kazakhstan*

**Abstract.** This paper reviewed issues regarding the use of probiotics (feed additive) in animal feeding. Probiotics are increasingly used in commercial animal production operations improve animal health and productivity. The major outcomes from using probiotics include improvement in productivity and milk quality. A total of 20 Lithuanian Black and White cows (10 animals in the control group and the test group) were selected for feeding test and fed with the experimental diets for 90 days. The experimental group of cows fed with a diet added by the combination of synergistically active probiotic cultures, organic acids and adsorbents mixture (20 g/day). The results shown that mixture increased these parameters: cows productivity 18.77% ( $P<0.05$ ), fat content in the milk 0.37% ( $P>0.05$ ), protein content – decreased by 0.13% ( $P>0.05$ ) and lactose content decreased by 24% ( $P<0.05$ ) compared to the control group. The results of this study clearly demonstrate that combination of synergistically acting probiotic cultures, organic acids and adsorbents mixture had positively effect on productivity and milk quality of dairy cows.

**Keywords:** milk yield, milk quality, feed additives, probiotics.